

Appln. Ser. No.: 10/666,236
Office Action Dated: October 5, 2004
Amdt. Dated: January 5, 2005

Patent
Docket No. 100718.422 US2 (MIC-80DV)

REMARKS

The present response does not amend, add, or cancel any claims. Accordingly, Claims 1-8 remain pending in the application. Claims 1 and 8 are independent.

In the Office Action of October 5, 2004, Claims 1, 2, 4, 5, and 8 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,589,728 issued to Levine, et al. ("Levine"). Claims 3 and 6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Levine in view of U.S. Patent 5,521,461 issued to Garcia ("Garcia"). Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Levine. These rejections are respectfully traversed.

Independent Claim 1 defines a column line structure for use in a cathode assembly of a FED. The column line structure comprises:

a conductive structure;
a resistive layer formed on said conductive structure; and
an insulative layer formed partly over said resistive layer.

According to the column line structure of independent Claim 1, the insulative layer is formed partly over the resistive layer in order to eliminate one of the photolithography sequences. Elimination of such a step can advantageously reduce some of the costs associated with manufacturing the FED device. Furthermore, the possibility of shorting between the column and row lines can be reduced during times when the FED is in use. See page 10, lines 9-11. The addition of the insulative layer further functions to reduce the distance between the conductive layer and the grid structure. This improves the refresh rate of the FED device because the RC constant associated with the circuit can be reduced. Accordingly, the claimed arrangement assists in achieving a better video rate during operation of the display device. The column line structure defined by independent Claim 1 also reduces the beam spot and improves

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display images because a thinner dielectric layer can be used. This, in turn, allows the use of smaller cavity openings around the emitter tips to be constructed. See page 10 lines 12 to 24.

The Office Action alleges that Levine discloses a column line structure that comprises a conductive structure, a resistive layer formed on the conductive structure, and an insulative layer formed partly over the resistive layer. This is not the case however. Levine does not appear to disclose a structure as set forth in independent Claim 1. First, the elements identified in the office action do not form part of a column line structure as set forth in the claimed invention. Rather, the Office Action has identified various layers associated with an emitter plate. For example, the layers identified in the Office Action are merely fabricated on top of each other. The resulting structure differs from the column line structure set forth in the present invention. See Figs. 2 and 3 of the instant application. Notwithstanding this fact, Levine appears to teach away from the claimed invention. The insulative layer (125) identified in the Office Action actually corresponds to the dielectric layer of the instant invention. Importantly, Levine indicates that layer 125 is formed such that there are no "unbroken partitions 43 separating adjacent ones of the cavities 41 of the microtips 14 of the same cluster 1 (see FIGS. 1 and 4)." FIGS. 1 and 4 correspond to the prior art, and fail to disclose an insulative layer formed on top of the resistive layer. Thus, Levine appears to teach an arrangement that differs from a conventional line structure, let alone the claimed column line structure.

Levine clearly fails to disclose the specific features recited in independent Claim 1. Levine appears to completely omit an insulative layer on top of the resistive layer. In contrast, independent Claim 1 specifically recites that an insulative layer is formed "partly over said resistive layer." This feature is simply not shown or suggested by Levine.

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It is therefore respectfully submitted that independent Claim 1 is allowable over Levine because the features recited therein are not shown nor suggested by Levine or any of the art of record.

Claims 2 to 7 depend from independent Claim 1, and are therefore believed allowable for at least the reasons set forth above with respect to independent Claim 1. In addition, these claims each introduce novel elements that are not shown nor suggested by the art of record or any combination thereof.

Independent claim 8 recites an FED that includes, in part, column lines "having an insulation layer thereon to inhibit shorting with the row lines." As previously discussed with respect to independent claim 1, this feature is simply not shown or suggested by the art of record. It is therefore respectfully submitted that independent claim 8 is allowable over the art of record.

For the reasons stated above, it is respectfully submitted that all of the pending claims (1-7 and 8) are now in condition for allowance. Therefore, the issuance of a notice of allowance is believed in order, and courteously solicited.

The Examiner is respectfully requested to contact the undersigned, if it is believed that such contact would further the examination of the present application.

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AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees that may be required for this Response, or credit any overpayment, to deposit account number 08-0219.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of which is required to make this response timely, and is hereby authorized to charge any fee for such, to deposit account number 08-0219.

Respectfully submitted,



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